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ABSTRACT

The reformulated learned helplessness model for the prediction of depression has been investigated extensively in young adults. Results have linked attributions made to undesirable, controllable events to depression in this age group. This reformulated model was investigated in 97 elderly women and was contrasted to the original learned helplessness model which links late onset depression to the uncontrollable events experienced by older persons. Subjects completed the Zung Self-Rating Depression Scale, a scale constructed from the Geriatric Scale of Recent Life Events, and a self-rating of health. In addition, they ranked their attributions of the cause of each of their experienced life events on the dimensions of locus, globality, and stability. The results indicated that the total number of recently experienced life events was significantly related to depression while only one event type (negative, not responsible) was significantly related to depression. When the effects of overall number of life events were controlled, two event types were significantly related to depression: negative, not responsible events were directly related to depression while positive, responsible events were inversely related to depression. These results do not support the reformulated model of learned helplessness as a predictor of depression in the elderly. Support was found for the original model in that the negative events, over which there is little chance for personal control, were significantly related to depression. These findings suggest that the etiology of late onset depression may be different from the etiology of depression in young adults. (NRB)

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Life Event Types and Attributional Styles as Predictors of Depression in the Elderly

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Running Head: PREDICTORS OF DEPRESSION

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Abstract

The reformulated learned helplessness model for the prediction of depression has been investigated extensively in samples of young adults. Attributions made to undesirable, controllable events have been linked to depression in this age group. This study investigates this model in a sample of elderly females and contrasts this model to the original learned helplessness model. The original model formulates the assumptions of many gerontologists that late onset depression is linked to the uncontrollable events experienced by elderly persons. Support was found for the original model, but not for the reformulated model. These results suggest that the etiology of late onset depression may be different from that of young adults.

Life Events and Attributional Styles as Predictions of Depression in the Elderly

Old age can be thought of as a period of loss events. Loss events may occur at any point during the life span, but in old age the incidence increases and perhaps more importantly, the individual's control over the occurrence often decreases. For example, loss of spouse or unemployment represent major life events that can occur at any age. When they occur in young or middle-aged adults, however, there is more possibility of individual control over their occurrence than is the case when the events occur in old age. Typically, in old age, loss of spouse is a result of death -- not divorce, and unemployement is a result of retirement, with the possibility of re-employment being unlikely. The inevitability in old age of experiencing loss in all areas -- work, family, income, physical abilities -- that are linked with aging and are not controllable by the individual led one author (Jarvik, 1976) to ask: "Why is not every old person in a profound state of depression?" (p. 326). Studies have shown, in fact, that depression is quite prevalent among elderly persons (Busse & Pheiffer, 1973; Gurland, 1976).

The assumption that the experience of uncontrollable loss events leads to depression persists and is common among gerontological writers. For example, Stenback (1980) stated: "When clinical depression is characterized as a mood disturbance

and a reduction of activity related to the mood disturbance, the etiology has to be sought in factors influencing both mood and activity. Loss of external love objects is in all quarters recognized as a principal etiological factor" (p. 618). Theoretically, this assuption is explained by the learned helplessness model (Seligman, 1975) which predicts that depression will result when an individual "believes or has learned that he cannot control those elements of his life that relieve suffering, bring gratification, or provide nurture — in short, he believes that he is helpless" (p. 93). Seligman adds: "Physical disease and growing old are helpless conditions par excellence; the person finds his own responses ineffective and is thrown upon the care of others" (p. 94).

The assumpton that people learn helplessness and become depressed due to uncontrollable experiences has been subjected repeatedly to experimental research (for a summary, see Abramson, Seligman, & Teasdale, 1978). The learned helplessness model was developed from the results of animal studies. When the research was replicated using human subjects, however, certain gaps in the model were identified. It was discovered that whether or not the event was objectively uncontrollable was less important than the subject's perception of uncontrollability. These findings were incorporated into a reformulation of the original model. According to the reformulated model, events which generate

depressive symptoms are those for which the individual is conceivably responsible but for which she feels an inability to control the outcome. It is those events for which there is some possibility of control or responsibility and not those events which are completely out of the individual's control that contribute to depression.

The reformulated learned helplessness model further assumes that certain cognitions about these events serve as mediators of the impact of the event on the individual. For example: Two men lose their jobs for reasons they think are beyond their control. Man A feels that he was too stupid to perform the skills required, while man B feels that he was fired so that his boss could hire his new son-in-law. The original learned helplessness model would predict that both men would feel equally depressed. The reformulated model would consider the differences in attribution to the incident and would predict differences in level of depression.

The reformulated model identifies a pattern of attributions that are linked with depression. Specifically, the depressed individual attributes the causes of negative events to internal (self) factors that are global and stable. These hypotheses were confirmed in a sample of college students (Seligman, Abramson, Semmel, and Baeyer, 1979). In another study, the proposed attributional style was shown to differentiate depressed

inpatients from nondepressed schizophrenics and nondepressed medical patients (Raps, Peterson, Reinhard, Abramson, & Seligman, 1982). Miller, Klee, and Norman (1982) found this style to be predictive of depression when the attributions were made to experienced life events, but not for hypothetical or experimental tasks. The findings of Miller et al. and others (see Hollon & Beck, 1979) led the authors to speculate that laboratory findings may lack the subjective components of belief and meaning that are found with experienced life events.

Another study (Hammen & Mayon, 1982) tested the reformulated learned helplessness model attributional style hypothesis with a sample of college students. This study considered attributions made to life events. The life events were divided into four categories: undesirable-responsible, undesirable-unresponsible, desirable-responsible, and ambiguous. The undesirable-responsible category was most associated with depression, as predicted by the reformulated model. Additionally, for the subject-identified most upsetting event, attributions were generally as predicted by the reformulated model. That is, these events were associated with more depression, were rated as internally caused, and as more global. The dimension of stability was not significant.

The predictions of the reformulated model have not been tested on samples of elderly persons and are problematic when applied to this group. The common assumption is that older people

experience more of the undesirable-unresponsible (uncontrollable) events than do younger people, and that these events are responsible for the high frequency of depression among the elderly. If this assumption is accurate, then the internal attributions for lack of control found to be consistently linked with depression in younger people may not be a factor in the depresssion experienced by older people. The question becomes: Is depression in older people the result of a different process than it is for younger people? (cf. Botwinick, 1978). Is it the result of experiencing uncontrollable loss events or is it similar to that experienced by younger people in that it can be predicted by a pattern of attributions to events over which there is some possibility of control?

The purpose of this study was to investigate the predictions of the reformulated learned helplessness model in an elderly sample. The predictions of this model were contrasted with the predictions of the original learned helplessness model which formulates the commonly held assumption that depression in elderely persons in a "normal" response to inevitable losses that are not controllable. The results are discussed in light of existing studies on samples of younger people.

Specifically, the questions investigated were:

1. With the effect of total number of life events controlled, which type of life event is the best predictor of

depression in older people — undesirable, uncontrollable events or undesirable events over which there is some possibility of control? The reformulated learned helplessness model predicts the latter.

2. Is there an attributional style associated with depression in older people? The reformulated model predicts that for undesirable events over which there is some possibility of control, the depressed individual will report significantly less control, and will attribute the cause of the events to internal (self) reasons that are global (pervasive, applying to other situations as well) and stable (unchangeable).

3. Do the above factors (i.e., event type, number of events, attributions) offer predictability when the influences of age, marital status, income, education, and health are controlled? The influence of these variables is investigated in order to rule out alternative explanations for the results.

Method

Participants and data collection

Information was obtained from 101 Caucasian females over the age of 60, who were residents of nonmetropolitan areas of the southeast. Information was not solicited from people known to be physically or emotionally ill or distressed. Four participants were eliminated because of the type of medicaton they reported

taking. Two people reported taking medication for "nerves" and two for "depression."

Information was obtained from persons who were residents of an apartement building for the elderly and from persons living independently in the community. Only participants who were identified as alert, assuming primary responsibility for self-care, and who were mentally competent were included in the sample.

From a total of 154 residents of the apartment building, the administrator indicated 16 people who whould be inappropriate to contact. Phone contact was made with 56 residents and 40 interviews were completed from these contacts. Of the 16 residents who declined to participate, 12 declined for reasons of being out of town, too sick, or sitting with a sick relative; only four declined for no reason. The interviewer assisted the participants in completing the questionnaire when necessary.

The remainder of the sample was obtained from community-dwelling people. Four people distributed questionnaires to people known to them. The people selected were similar to the residents of the apartment building; that is, female, over the age of 60, white, alert, and not in acute mental, physical, or emotional distress. The informants were given the questionnaire and a stamped, addressed envelope and were instructed to return the questionnaire anonymoulsy by mail. Included with the questionnaire was a phone number to call (collect) if they had any

questionnaire was a phone number to call (collect) if they had any questions. No one called and the return rate was 99%. Two of the mailed questionnaires were not correctly completed and were eliminated.

In order to determine if the two groups (apartment dwelling and community dwelling) were similar on the dependent variable, an ANOVA was computed with the depression score as the dependent variable. There was no difference between the two groups $F(1, 96) = .55$, ns.

Demographic characteristics of the sample can be seen in Table 1. The sample was relatively evenly distributed over levels of education. Most of the sample were not currently working, were not currently married, and fell within the middle ranges of income and health.

Insert Table 1 about here

Measures

Depression. From among the many scales designed to measure depression, the Zung Self-Rating Depression Scale (Zung, 1965) was used in this study for several reasons. According to Gurland (1980) it "ranks with the best and most practical" (p. 628) for use with older populations. The items on the scale were constructed from factors widely documented as symptons of

depression (Zung, 1965). The scale has been demonstrated to differentiate depression from anxiety disorders, personality disorders, and transient situational adjustment reactions. It has been shown to be well correlated with other measures of depression. (.70 with the MMPI D scale), including psychiatric assessment (Zung, Richards & Short, 1965).

From this study, two changes were made to the format of the scale. These changes reflect suggestions made by other investigators who have used this scale with elderly people (Salzman, Kochansky, Shader, & Cronin, 1972). The response category "a little of the time" was changed to "none or a little of the time.". The item "I still enjoy sex" was deleted. It was believed that any information gained from the inclusion of this item would be minimal and its appropriateness is questionable in a sample of older people, many of whom no longer live with their spouses (see Salzman et al., 1972). This item did not load on the clinical depression factor in a factor analytic study of the scale (Morris, wolf, & Kleman, 1975), and thus its deletion was not believed to significalty change the measure of the construct of depression. For this sample, the mean depression score obtained on the modified scale was 32.75 (SD 7.76, range 20-52).

Life Events. A scale consisting of 41 items was used to assess the significant life events that participants had experienced within the last 2 years. The scale was constructed

from the Geriatric Scale of Recent Life Events (Kiyak, Liang, & Kahana, 1976). The Geriatric Scale of Recent Life Events consists of items from the Holmes and Rahe (1967) Social Readjustment Scale and items constructed from open-ended questionnaires administered to elderly people. Although there are no published reports of validity and reliability of the scale, it has more face validity for use with elderly samples than does other, more commonly used, scales.

The items included in the scale constructed for this study were selected to comprise four categories of event types similar to those suggested by Hammen and Mayol (1982). The four categories are: positive, responsible (PR); negative, responsible (NR); positive, not responsible (PNR); and negative, not responsible (NNR). The responsible events are those events that are potentially within the individual's control (voluntary retirement, trouble with neighbor). The not responsible events are those events that are not within the indivudual's control (death of spouse, improvement in family member's health). The PNR type was not included in the Hammen and Mayol study, but was believed to be necessary for this study as older persons may experience a number of events of this type.

In order to demonstrate the validity of this categorization, three members of the Faculty of Gerontology at the University of Georgia were asked to examine the event categorization. No

categorization changes were suggested by them; agreement was 96%. Five events were questioned: "began dating," "decrease in recreation," "minor illness," "major illness," and "stopped driving." None of these five events were questioned by more than one person, however.

The categorization and reported frequency of the events can be seen in the appendix. The average number of life events reported in this sample was approximately five. On the average, over half of these five events were NNR events.

Attributions. In order to test the reformulated learned helplessness model, participants were asked to rank their attributions of the cause of each of their experienced life events on the dimensions of locus, globality, and stability. The following questions were asked for each event to measure the attributions:

Do you think this event occured because of something about: yourself -- other things, other people (Locus)

To what extent do you thing the causes of this event will cause other things in your life? (Globality)

Do you think that the cause of this event is: stable, unchanging --very unchangeable, unstable? (Stability)

Additional questions were asked for each experienced life event to control for these cognitions about the event:

How upsetting was this event for you?

How much control did you have over the occurrence of this event?

Did you expect this event to happen at the time it occurred?

Responses were indicaed on a four-point scale. Each of the six scales was adapted from Hammen and Mayol (1982). They report reliabilities from unpublished studies ranging from .59 for control to .38 for stability. They conclude: "Taken together, these data suggest that these single item cognition scales have sufficient reliability to warrant use as research tools" (p. 167).

Health. Because of the extensively documented validity of self-rated estimates of health by elderly people (for a summary, see Siegler, Nowlin, & Blumenthal, 1980), this method of assessment was used for this study.

Results

The purpose of this study was to investigate the predictions of the original learned helplessness model and the predictions of the reformulated learned helplessness model in a sample of elderly females. Specifically, the study examined the relation of: (a) Life event types and depression, (b) attributions and cognitions of life event and depression, and (c) life events and life event types and depression with the effects of health, age, SES indicators, and marital status controlled.

Life event types

A Pearson product moment correltation was computed in order to determine the relation of number of events in each event type and depression. A partial correlation was computed for each event type and depression, with the effect of total number of events controlled. This analysis was suggested by Hammen and Mayol (1982) in order to control for the amount of stress assumed to be associated witht he total number of recently experienced life events. As can be seen in Table 2, the total number of life events was significantly related to depression, $r = .22$, $p < .05$. Only one event type was significantly related to depression, NNR, $r = .33$, $p < .01$. When the effects of overall number of life events were controlled, two event types were significantly related to depression, PR, $r = .28$, $p < .01$, and NNR, $r = .26$, $p < .05$.

Insert Table 2 about here

The original learned helplessness model predicts that uncontrollable (not responsible) events are relaed to depression. An assumption of the reformulated model is that it is the negative events for which there is some possibility of control or responsibility that are related to depression. These results clearly do not support the reformulated model. Support is found for the original model in that the negative events over which

there is little chance for personal control were significantly related to depression in this sample.

While neither model makes specific preditions about positive events, these were included in the study in order to gain a more complete picture of the life event stressors that may affect depression level in the individual. In fact, PR events were inversely related to depression when the total number of life events were controlled. People who reported experiencing more PR events reported lower levels of depression.

Attributions and cognitions

The reformulated learned helplessness model predicts an attributional style related to depression. Depressed people attribute the cause of negative events over which there is a possibility of personal control to internal, stable, and global reasons. Even though this event type (NR) was not related to depression in this sample, the relation of attribution to causes of this event and depression was investigated. A multiple regression equation was calculated for each attribution with the total number of NR events controlled. As can be seen in Table 3, none of the attributions to this event were related to depression.

Insert Table 3 about here

In order to explore the effects of attributions to events that were related to depression, that is the NNR Events, multiple regression equations were computed for these variables. These results, reported in Table 3 show that only globality significantly added to the prediction of depression when the effects of the total number of NNR events were controlled.

Similar explorations were made of the relation of attributions and cognitions of the PR events. These events were related to depression when the effects of the number of total life events were controlled. None of the attributions or cognitions were related to depression. Further exploration showed that the number of PR events was not related to the number of NR events, PNR events, or NNR events. The number of PR events was related, however, to age, $r = -.37$, $p < .006$. As people get older, they tend to experience fewer positive events over which there is some possiblity of personal control.

The original learned helplessness model predicts that depression results when a helpless approach, generated by the experience of uncontrollable events, is taken to situations over which the individual may have some control. In order to investigate this prediction, correlations between the number of NNR events and the cognition of control and the globality attribution to NR events were computed. People who reported experienceing more NNR events reported that NR events would cause

many things in their lives, that is, the effects were global, r = .53, $p < .002$. There was a slight tendency for these poeple to report less control of the NR events, r - .30, $p < .09$. These results suggest that as the number of uncontrollable, undesirable (NNR) events increases, people think that the effects of negative controllable (NR) events will be more pervasive in their lives and may tend to perceive less control of these events. These results lend some support, then, to the notion that helplessness becomes a generalized approach.

Relation of helath, marital status, SES indicators, age, attributions, event types and depression

Multiple regresssion was used to determine if attributions and life event type added to the prediction of depression when the effects of age, health, SES, and marital status were controlled. The effects of age, health, marital status, and SES indicators were controlled, then the effects of attributions and the four event types were entered in a stepwise procedure. The event types were entered using a maximum R^2 improvement method. Marital status was recoded for this procedure to make it more meaningful. The "not currently married" categories (widowed, divorced, nver married) were collapsed into one category, yielding two categories: married and not married. The results of this analysis can be seen in Table 4. Twenty percent of the variance in depression scores can be predicted from the first six

variables. The inclusion of the number of NNR event types improved the prediction of depression (R^2 = .254, p < .002). No other event type nor any of the attributions added significance to the prediction.

Insert Table 4 about here

In order to determine the best model for the prediction of depression, all of the demographic information, the number of each life event type, and the attributions to each event type were considered for entry into a regression equation in a stepwise manner. Only those variables that met the .15 significance level were included in the model. As can be seen in Table 5, three variables account for almost 24 percent of the variance in the depression scores. The variables are marital status, health, and the number of NNR events. None of the remaining variables met the significance level to be included in this equation.

Insert Table 5 about here

Relation of health to depression scale items and NNR event type

Since some of the events in the NNR event type are health items and some of the items on the depression scale could be related to health, an attempt was made to determine if the instruments were measuring the same or similar constructs. Using

a method suggested by Berry, Storandt, and Coyne (1984), depression scale items were divided into two categories: somatic, representing symptoms possibly related to physiological health; and psychological, representing symptons related to affect, cognition, self-esteem, etc., and not related to physiological health. The distributions and correlations of these scores can be seen in Table 6. These results suggest that somatic and psychological items on the scale are approximately equally related to both health and number of NNR events. Somatic itmes are somewhat more highly correlated with health, $r = .327$, $p < .001$, than are the psychological items, $r = .243$, $p < .016$. When considering the correlations with number of NNR events, the psychological items were more highly correlated $r = .281$, $p < .009$, than were the somatic items, $r = .252$, $p < .019$. The only variable related differentially to these two categories was age. Psychological items were not related to age, $r = .016$, ns. Somatic items were related, $r = .221$, $p < .030$. As people get older, they tend to report more somatic symptoms.

Insert Table 6 about here

From these analyses, it can be concluded that the number of NNR events experienced and the health of the individual is related about equally to the somatic and non-somatic items on the

depression scale. These analyses suggest that even though there is some overlap in the health reatings, the number of NNR items, and the depression scale items, these variables are not measuring the same construct.

Discussion

The results of previous studies have demonstrated that the factors proposed by the reformulated learned helplessness model do predict depression in samples of younger people. Depression is related to the attributions of locus, stability, and globality to undesirable, controllable events. In this study, these prdictions were investigated in a sample of females over the age of 60. In addition to this model, the original learned helplessness model was investigated. The original model provides a theoretical base for the suggestion of many gerontologists that depression, when it emerges for the first time in old age, is a different phenomenon. They suggest that late onset depression is a response to the inevitable loss events that are experienced in old age. The original model predicts that when people experience a number of events over which they have no control (e.g., deaths of family members and friends, physical declines, etc.) they begin to feel helpless to control other things in their lives over which they may in reality have control. Depression emerges as this feeling of helplessness becomes pervasive.

No evidence was found in this study to support the reformulated model. The NR events were not related to depression, nor was the cognition of control of these events related to depression. This finding clearly contradicts the basic assumption of the reformulated model. Further investigation of the attributions of this event type failed to identify any relation between the attributions and depression. No attributional style was identified.

Some support was found for the original learned helplessness model. The undesirable events that people are generally helpless to control were significantly related to depression. As the number of these events increased, depression increased. The relation remained when the effects of age, health, marital status, and socio-economic indicators were controlled. When considering the attributions to this event type, it was found that people who scored higher on the depression scale thought that these events would cause a greater frequency of "other" things in their lives, whereas people who reported lower levels of depression though that these events would cause little else in their lives.

As stated earlier, the experience of life events may be related to life stage. It is quite apparent that older people generally experience more of the events categorized as NNR in this study. These events are inevitable during old age; they are more unusual during the early and middle life stages. The incidence of

controllable events decreases in late life. Another difference that is quite likely between older and younger groups is the value, importance, or perception of any particular event. Breaking a bone would have quite different implications for an older person thatn would the same event for a younger person. This difference in implication may be true for any number of life events. These considerations are very important when testing the predictions of the reformulated learned helplessness model using life events as predictors of depression. If, for example, older people had the same opportunity as do younger people to experience undesirable, controllable life events, then this event type might emerge as a predictor of depression for the older age group. It may be this lack of opportunity for experience that makes this model inappropriate for predicting depression in elderly people. On the other hand, it may be that the effects of uncontrollable, negative events on depression are suppressed in samples of younger people due to their relative lack of opportunity to experience this type of event.

The finding concerning the relation of the number of PR events and depression was not clearly predicted by either model. This relation emerged only when the effects of the total number of life events were controlled. The implications of this finding may be of questionable importance since the effects of the total number of life events are not absent in the lives of elderly

people. It is interesting to note the relation of this event type and age. As people get older, they are less likely to experience PR events. This may represent another "loss event" that accompanies age -- that of the experience of desirable, controllable events.

It must be remembered that the findings of this study are correlational and do not indicate cause. We do not know, for example, that the number of NNR events a person experiences causes that person to be depressed. It could be that depressed people simply report having experienced more negative events. This explanation is somewhat suspect, however, because negative, responsible events were not related to depression. Another caution concerning the interpretation of these findings stems from the exclusion of elderly males from the sample. Further study is needed to determine if these results apply to elderly males.

In summary, it can be concluded that as elderly females experience a number of undesirable, uncontrollable events, they are at risk of developing symptoms of depression. At greatest risk are those elderly females who currently are not married, who are not in good health and who have experienced a number of undesirable, uncontrollable events. These risk factors are present across age groups (60 and over), and across income and education levels.

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Appendix

Reported Frequencies of Life Events

Event	Frequency
Positive, responsible events	
Increase in number of visits with family & friends	26
Moved to a more desirable residence	9
Began dating	0
Living conditions improved	8
Personal achievement	10
Marriage	0
Marital reconciliation	0
Fewer arguments with spouse	2
Improvement of financial state	13
Voluntary retirement	4
Increase in travel or vacations	18
Negative, responsibe events	
Living conditions worsened	5
Divorce	0
Separation from spouse	0
Financial difficulty	4
Decrease in recreation	28
Spouse unfaithful	0
Fired from job	0

Loss of valuable object	2
Minor legal violation	0
Trouble with neighbors	2
Decrease in visits with family and friends	5
More arguments with spouse	2
Trouble with children	3
Moved to less desirable residence	4
Negative, not responsible events	
Minor illness	50
Difficulty with hearing or vision	31
Difficulty walking	27
Family member ill	36
Death of a close friend	29
Age discrimination	5
Stopped driving	3
Death of spouse	4
Death of family member	20
Victim of a crime	2
Positive, not responsible events	
Grandchild married	17
Gained a new family member	26
Personal achievement of a family member	34
Child married	8
Improvement in family member's health	10

Table 1

Description of the Sample

Variable	n	%
Age		
60-65	13	13.4
66-70	19	19.6
71-75	28	28.9
76-80	9	9.3
81-85	21	21.6
86-90	7	7.2
90+	0	
Employment Status		
employed full-time	3	3.1
employed part-time	6	6.3
retired	76	79.1
never worked	11	11.5
Marital Status		
married	33	34.0
widowed	54	55.7
never-married	4	4.1
divorced	6	6.2
Education		

did not complete High School	14	14.4
completed High School	15	15.4
Years education after High School:	1	16.5
	2	16.5
	3	10.3
	4	15.5
	5+	11.3
Income (Monthly)		
500 or less	16	17.2
500-1000	28	30.1
1000-2000	31	33.3
2000+	18	19.4
Health		
excellent	11	11.3
good	52	53.6
fair	27	27.8
poor	7	7.2

Table 2

Relation of Life Event Types and Depression

Event Type	n	M	Range	r	Partial r[a]
Total life events	97	4.94	1-13	.22*	
Total positive responsible events	53	1.70	1-5	-.12	-.28**
Total negative responsible events	41	1.36	1-4	.17	.05
Total positive, not responsible events	53	1.79	1-4	.11	-.03
Total negative, not responsible events	87	2.57	1-7	.33**	.26**

[a]effect of total life events controlled

*$p < .05$. **$p < .01$.

Table 3

Relation of Cognitions, Attributions, Event Types, and Depression

Predictor	n	M	SD	Range	R^2	f
Total NR events					.000	
locus	35	2.63	1.34	1-4	.037	.62
globality	35	2.62	1.12	1-4	.005	.08
stability	35	1.91	1.07	1-4	.002	.03
Total NNR events					.098	9.13**
locus	86	3.36	.85	1-4	.082	.77
globality	86	2.43	1.06	1-4	.140	4.09*
stability	84	2.22	1.01	1-4	.129	2.13

*$p < .05$. **$p < .01$.

Table 4

Relation of Event Types and Depression with Health, Age, Marital Status, SES indicators Controlled

Predictors	b-value	F	R^2
Age	.295	.27	
Incom	-1.612	3.37	
Marital Status	2.999	2.82	
Education of Spouce	.027	.00	
Education	.404	.55	
Health	3.108	8.58**	
Total			.200
Age	.081	.02	
Income	-1.210	1.94	
Marital Status	3.609	4.23*	
Education of Spouse	-.054	.01	
Education	.364	.47	
Health	2.016	3.21	
NNR Events	1.420	5.87*	
Total			.254[a]

*$p < .05$. **$p < .01$.

Table 5

Best Model for Prediction of Depression

Predictor	b-value	F	R^2
Marital Status	3.996	5.46*	
Health	2.141	2.89	
NNR Events	1.881	7.83**	
Total			.239

*$p < .05$. **$p < .01$.

Somatic and Psychological Indicators of Depression

Indicator	M	SD	Range	Pearson r				
						Total	Life Event	
				Age	Health	depression	total	Total NNR
Somatic items	16.65	4.04	10-27	.221*	.327**	.853**	.188	.252*
Psychological Items	16.09	4.82	10-28	.016	.243*	.898**	.181	.281**

*$p < .05$. **$p < .01$.